eCHO Systems
Project ID: 642663
Funded under: H2020-EU.1.3.1. - Fostering new skills by means of excellent initial training of researchers

Enhancing CHO by Mammalian Systems Biotechnology (eCHO systems)

From 2015-01-01 to 2018-12-31, ongoing project | eCHO Systems Website

Project details

<table>
<thead>
<tr>
<th>Total cost:</th>
<th>Topic(s):</th>
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<td>EUR 4 044 794,43</td>
<td>MSCA-ITN-2014-ETN - Marie Skłodowska-Curie Innovative Training Networks (ITN-ETN)</td>
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<th>EU contribution:</th>
<th>Call for proposal:</th>
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<td>EUR 4 044 793,68</td>
<td>H2020-MSCA-ITN-2014</td>
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<th>Coordinated in:</th>
<th>Funding scheme:</th>
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<tr>
<td>Denmark</td>
<td>MSCA-ITN-ETN - European Training Networks</td>
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Objective

Chinese hamster (CHO) ovary cells are the production host for a +50 billion €/yr biopharmaceuticals market. Current CHO production platforms dates to 1980 and are based primarily on media and process optimisation with little consideration to the optimization of the cellular machinery. Fortunately, with the recent sequencing of the CHO genome, an opportunity has opened to significantly advance the CHO platform. The benefit will be advanced production flexibility and a lower production cost.

This ITN graduate training programme - eCHO Systems - will blend conventional molecular, cellular, and synthetic biology with genome scale systems biology training in ‘omics data acquisition, biological network modeling, and genome engineering in three interdisciplinary topics:

1) Acquisition of large scale ‘omics data sets and their incorporation into genome-scale mathematical models
2) Development of genome engineering tools, enabling synthetic biology
3) Application of systems and synthetic biology and genome engineering to improve performance of CHO producers

The training projects are supported by 15 industrial participants, which will participate in the research and test the results. ESR training will include intense courses focused on computational systems biology, cell biology, business and entrepreneurship. The three universities bring unique complementary skills in systems and synthetic biology, ‘omics technologies, cytometry, and molecular cell biology which will provide depth and breadth to this training. The eCHO Systems will produce four major outputs: General knowledge to improve the productivity, quality, and efficiency of CHO platform cell lines, new systems models for CHO cells, new CHO cell line chassises generated through synthetic biology approaches, high quality education at the graduate level, and a cadre of interdisciplinary graduates poised to transform biopharmaceutical biotechnology.

Related information

Report Summaries

Periodic Reporting for period 1 - eCHO Systems (Enhancing CHO by Mammalian Systems Biotechnology (eCHO systems))

Page 1 of 5
Research and Innovation
Coordinator

DANMARKS TEKNISKE UNIVERSITET  
ANKER ENGELUNDSVEJ 1 BYGNING 101 A  
2800 KGS LYNGBY  
Denmark  
EU contribution: EUR 1 160 327.52

See on map

Activity type: Higher or Secondary Education Establishments
Contact the organisation

Participants

UNIVERSITY OF KENT  
THE REGISTRY CANTERBURY  
CT2 7NZ CANTERBURY, KENT  
United Kingdom  
EU contribution: EUR 819 863.64

See on map

Activity type: Higher or Secondary Education Establishments
Contact the organisation

UNIVERSITY OF KENT  
DUBLIN CITY UNIVERSITY  
Glasnevin  
9 DUBLIN  
Ireland  
EU contribution: EUR 797 023.80

See on map

Activity type: Higher or Secondary Education Establishments
Contact the organisation

ACIB GmbH  
Petersgasse 14  
8010 GRAZ  
Austria  
EU contribution: EUR 1 017 018.72

See on map

Activity type: Research Organisations
Contact the organisation

RENTSCHLER BIOTECHNOLOGIE GMBH  
Participation ended  
ERWIN RENTSCHLER STRASSE 21  
88471 LAUPHEIM  
Germany  
EU contribution: EUR 0

See on map

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)
Contact the organisation
EU contribution: EUR 250 560

UNIVERSITAET FUER BODENKULTUR
WIEN
GREGOR MENDEL STRASSE 33
1180 WIEN
Austria
See on map

Activity type: Higher or Secondary Education Establishments
Contact the organisation

Chorus
GmbH
UNTERGRAFENDORF 17
3071 BOHEIMKIRCHEN
Austria
See on map

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)
Contact the organisation

BOEHRINGER INGELHEIM PHARMA GMBH &CO KG
BINGER STRASSE 173
55218 INGELHEIM
Germany
See on map

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)
Contact the organisation

EVERCYTE GMBH
MUTHGASSE 18
1190 WIEN
Austria
See on map

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)
Contact the organisation
FUJIFILM BIOSYNTH BIOTECHNOLOGIES UK LIMITED
BELASIS AVENUE
TS23 1LH BILLINGHAM
United Kingdom
See on map

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)
Contact the organisation

Symphogen A/S
Elektrovej Byg. 375
2800 Lyngby
Denmark
See on map

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)
Contact the organisation

CMC BIOLOGICS AS
Vandtaarnsvej 83 B
2860 SOBORG
Denmark
See on map

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)
Contact the organisation

BIONEER A/S
KOGLE ALLE 2
2970 HOERSHOLM
Denmark
See on map

Activity type: Research Organisations
Contact the organisation

Eli Lilly and Company Limited
Lilly House, Priestley Road
RG24 9NL Basingstoke
United Kingdom
See on map

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)
Contact the organisation
ICOSAGEN AS
NOORUSE 9
50411 TARTU
Estonia
See on map

**Activity type:** Private for-profit entities (excluding Higher or Secondary Education Establishments)
Contact the organisation

Janssen Biologics
Einsteinweg 101
2300AG Leiden
Netherlands
See on map

**Activity type:** Private for-profit entities (excluding Higher or Secondary Education Establishments)
Contact the organisation

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